

What is claimed is:

1. A method of genotyping the T cell receptor using a high density nucleic acid array comprising:

obtaining a biological sample comprising suitable cells from an individual,
extracting nucleic acid from said cells;
providing a nucleic acid array comprising probes designed to interrogate at least one pre-determined polymorphism of the T cell receptor;
hybridizing said nucleic acids to said array;
detecting hybridization complexes; and
determining whether polymorphism is present in the T cell receptor gene ; and
determining the T cell receptor genotype of said individual.

2. The method of Claim 1 wherein the nucleic acid molecules represent the variable regions of the T cell receptors.

3. A method for correlating the presence of at least one selected polymorphism and a susceptibility to a disease, the method comprising the steps of:

obtaining a first nucleic acid from a population of individuals with a selected disease and a second nucleic acid from a control population of healthy individuals;
providing a nucleic acid array comprising probes designed to interrogate at least one T cell receptor polymorphism;

generating a first and second hybridization pattern by hybridizing the first nucleic acid to a first copy of the nucleic acid array and the second nucleic acid to a second copy of the nucleic acid array; and

analyzing the first and second hybridization patterns to identify at least one polymorphism that is present in higher frequency in population with individuals with said disease than in population of healthy individuals; and identifying at least one disease-specific polymorphism.

4. The method of claim 3 wherein the nucleic acid represent the variable regions of the T cell receptors.

5. A method of predicting an immune response to a disease, said method comprising:

establishing a correlation between a T cell receptor genotype and a clinical outcome of said disease;

genotyping a patient T cell receptor using a nucleic acid array comprising probes designed to interrogate at least one T cell receptor polymorphism; and

determining clinical outcome for said patient based on said patient T cell receptor genotype.

5. The method of claim 4 wherein the disease is an autoimmune disease.